

IN THE SPECIFICATION:

Please amend the paragraph on page 3, lines 26-28 as follows:

Wherein said sensor comprises an absolute humidity sensor for providing an indication of the absolute humidity of said ~~gas gases flow~~ at least one point in the flow path through said apparatus of said ~~gas gases flow~~, and said humidifier including a body of liquid water and said gas.

Please amend the paragraphs on page 4, lines 6-14 as follows:

Wherein said humidification bypass includes a bypass conduit in at least partially passing through said body of water for conveying a portion of said gas from said inlet to said outlet, and a valve provided in said bypass conduit to thereby ~~control~~ restrict of the portion of said gas in said bypass conduit, the gas flowing through said bypass conduit being heated by the surrounding said body of water.

Wherein said humidification bypass further having a bypass conduit for conveying a portion of said gas from said inlet to said outlet including a bypass heater adapted to heat the portion of said gas in said bypass conduit and/or said bypass conduit, and a valve provided in said bypass conduit to thereby ~~control~~ restrict the portion of said gas in said bypass conduit.

Please amend the paragraph on page 4, lines 19-24 as follows:

Wherein a humidification apparatus further comprises a flow sensor providing an indication of the instantaneous flow rate of the gas wherein said control configured to control the restriction provided by said valve ~~means~~ on the flow rate of the portion of ~~said gases flow~~ the gas in said bypass conduit ~~means~~ based on said indication of instantaneous flow rate of

said ~~gases flow~~ gas through said ~~humidification chamber means~~ humidifier, in order that the ~~gases flow~~ gas exiting from said ~~humidification chamber means~~ humidifier is of substantially constant humidity.

Please amend the paragraph on page 5, lines 5-9 as follows:

Wherein a humidification apparatus further comprises a conduit to convey said gas from said outlet to a patient including insulation adapted to minimise the rate of heat energy lost by said gas in said conduit, said controller adapted to energise said humidifier and said air heater to minimise the condensation of the vapour from said ~~gases~~ gas in said ~~gases~~ transportation pathway means conduit while providing predetermined levels of absolute humidity.

Please amend the paragraph on page 3, lines 1-19 as follows:

One preferred form of the present invention will now be described with reference to the accompanying drawings in which;

Figure 1 shows an example of an humidification system, comprised of three parts,

Figure 2 shows a chamber which incorporates a metal element,

Figure 3 shows a chamber using a porous material to provide a heating and humidifying function,

Figure 4 shows a chamber using a semipermeable membrane,

Figure 5 shows a chamber with a variable valve to adjust the ratio of gas which are bypassed,

Figure 6 shows a chamber with an adjustable valve 30 where one part of the gas gets humidified while the other is heated,

Figure 7 shows a chamber where the dry gas entering chamber is pre-heated,

Figure 8 shows a chamber where the dry gas entering chamber is heated after leaving the chamber,

Figure 9 shows a chamber combined with an unheated, well insulated delivery tube,

Figure 10 shows construction of a tube incorporating flexible PTC elements in a parallel wire configuration,

Figure 11 shows a humidifier configuration using the tube in Figure 10,

Figure 12 shows the chamber manifold,

Figure 13 is a front view of a humidifier chamber with a manually adjustable valve.

Figure 14 is a front view of a humidifier chamber with a automatically adjustable valve.

Please amend the paragraph on page 11, lines 3-15 as follows:

The angle of variable valves 26 and 30 in Figures ~~5 and 6~~ 5, 6, 13 and 14 may be permanently set, may be manually adjustable 1300, or may be automatically adjustable 1400. One advantage of an automatically adjustable valve 1400 would be to provide a constant level of humidity out of the chamber when used with intermittent flow rates, for example when used with a ventilator. These flow patterns can be a problem because parts of the breath cycle contain less humidity than other parts, due to the chamber providing less humidity at higher flow rates. One way to overcome this problem is to measure the instantaneous flow rate using a fast response flow sensor, and then rapidly adjusting the angle of the variable valve. A more practical method of achieving this effect would be to spring-load valves 26 and 30 using springs 70 and 71. This would mean that low flow rates would mostly pass through the bypass tubes, while high flow rates would operate the spring-loaded valve and allow more gas

to pass across the water in the humidification chamber. The angle of the spring-loaded variable valve could also be used by the humidifier to measure the gas flow rate.